

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

Claims 1-41. (Canceled)

Claim 42. (Currently Amended) A method of propagating cells selected from the group consisting of progenitor cells; and stem cells ~~and/or cells derived from said cells~~ by administration of a composition comprising an effective amount of a growth hormone or a functionally equivalent analogue thereof to the cells ~~stem cells, progenitor cells, neurons astroglial cells and/or oligodendrocytes~~ in vitro.

Claims 43-52. (Canceled)

Claim 53. (Currently Amended) A method ~~according to~~ of Claim ~~52~~ 59, wherein an effective amount of the growth hormone ~~or a functionally equivalent analogue thereof~~ is administered to said brain cells during *in vitro* propagation.

Claims 54-58. (Canceled)

Claim 59. (Currently Amended) A method of inducing lineage determination or inducing or maintaining the genesis of neurons, oligodendrocytes, astroglia cells from progenitor cells or stem cells in, or derived from, the central or peripheral nervous system in a patient in need thereof of neuron regeneration comprising:

(A) administering a composition comprising a pharmaceutically effective amount of a growth hormone ~~or a functionally equivalent analogue thereof~~ to said patient in need thereof of neuron regeneration;

(B) removing brain cells from said patient in need thereof of neuron regeneration after said administration;

(C) propagating said brain cells in vitro; and

(D) transplanting the propagated brain cells into said patient in need thereof of neuron regeneration.

Claim 60. (New) A method of Claim 42, wherein the cells are isolated from mammalian central nervous system.

Claim 61. (New) A method of Claim 42, wherein the mammalian central nervous system is a human central nervous system.

Claim 62. (New) A method of Claim 59, wherein the growth hormone comprising composition is administered by intravenous peripheral infusion or by intramuscular or subcutaneous injection.

Claim 63. (New) A method of Claim 62, wherein the growth hormone comprising composition is administered by subcutaneous injection.

Claim 64. (New) A method of Claim 62, wherein the growth hormone comprising composition is administered in a dosage of from about 0.01 to about 1 IU/kg body weight of the patient per week.

Claim 65. (New) A method of any one of Claims 59, 62, 63 or 64, wherein the composition comprises a further compound or composition capable of inducing cell genesis or proliferation is administered in step a) of Claim 59.

Claim 66. (New) A method of Claim 65, wherein the further compound or composition are selected from the group consisting of peptides, growth factors, steroids, lipids, glycosylated proteins, and peptides or combinations thereof.

Claim 67. (New) A method of Claim 66, wherein the further compound is a growth factor.

Claim 68. (New) A method of Claim 67, wherein the growth factor is epidermal growth factor or fibroblast growth factor 2.

Claim 69. (New) A method of Claim 68, wherein the combination of compounds or compositions is administered simultaneously.

Claim 70. (New) A method of Claim 69, wherein the combination of compounds or compositions is administered sequentially.

Claim 71. (New) The method of Claim 59, wherein the patient in need of neuron regeneration suffers from a condition associated with central nervous system damage or deficiency, neuronal cell loss or memory loss.

Claim 72. (New) The method of Claim 71, wherein the neuronal cell loss or memory loss is multiple sclerosis, hypoxic injury, ischemic injury, traumatic injury, Parkinson's disease or a demyelination disorder